Final Comparison Study of Teaching Blended In-Class Courses vs. Teaching Distance Education Courses

By Dr. Susan J. Martin
Political Science Department, Indiana University of Pennsylvania
Indiana, PA 15705, USA

1. ABSTRACT

This paper will share with the members of the conference the findings from the final study. This study contains five semesters of analyzed data which compares the retention of students, final grades for students, grades for five specific tasks that were given in blended in-class courses and in the totally online courses, and a comparison of data by GPA, gender, and by class level. All courses were American Politics PLSC 111. Each semester one or two American Politics courses were conducted in the classroom and one American Politics distance education course was conducted totally online. Each time the courses were given, it was during the same semester and by the same professor who is the researcher.

Keywords: Distance education, online courses, blended courses, in-class courses, students' retention, grade point average (GPA), gender, and class.

2. INTRODUCTION

Online learning has become popular over the last 30 years because of the hardware and software advances and the broad acceptance and usage of computers by the global population. Universities with distance education courses have increased enrollments and revenues because of non-traditional students and students from all over the world who find totally online courses fit their lifestyle. Since geography no longer determines the selection of courses students have to choose from, students are free to take a totally online course that satisfies their program and transfer it back to their main university. But still the question is asked, is distance education giving students a quality education and is the education comparable to the traditional in-class course?

3. LITERATURE REVIEW

The technological revolution which supports new methods of learning has many supporters and opponents. The supporters of distance education cite that traditional learning in the classroom has never been proven to be the most effective method of transmitting information or imparting knowledge to students, it may be inconsistent, inflexible, does not recognize the technology skills that people have today, and does not meet the needs of students with different backgrounds and experiences [1]. While opponents suggest that distance education courses have security issues, lack positive evaluations of teaching effectiveness, and lacks appropriate communication to and from the students and the professor. The evaluation continuum of teaching and learning effectiveness of distance education courses span from negative to no significant difference between traditional in-class teaching and distance education teaching to extremely positive outcomes. Katrina Meyers in her article "Quality in Distance Education" cites a tremendous amount of studies which have come to the conclusion that "student achievement between web-based versus in-person delivery models….comparing the two types of delivery methods leads to a conclusion of no significant difference in student achievement. However, several of these studies found differences in completion or student satisfaction, although final grades or exam scores were often the same, or nearly the same, between the two types of courses compared [2]." The reality is that a dramatic change has taken place in the expectation of people who are seeking an education. New technologies, e.g., computers, internet, cell phones, I pods, Google, etc. that have penetrated the lives of people are accepted and expected to be a part of educational instruction. Allen and Seaman in their article "Online Nation" completed a comprehensive evaluation of the growth of totally online learning over the last five years. In their report they state the following:

- "Over 3.9 million students were taking at least one online course during the fall 2007 term; a 12 percent increase over the number reported the previous year.
- The 12.9 percent growth rate for online enrollment far exceeds the 1.2 percent growth of the overall higher education student population.
- Over twenty percent of all U.S. higher education students were taking at least one online course in the fall of 2007 [3]."

At Oxford Brookes University in the Theology and Religion Department, they have been offering a BA for Distance Learning which is very creative. They have simplified their application process and have allowed students to enroll during any time of the year which broke the semester barrier for students. Also, the university created a flexible module and payment system that allows for the students to pace themselves throughout the course [4]. The program has been successful for seventeen years.

Other reasons for higher education's support of distance education are given by Thomas Kriger. Kriger in his study, "A Virtual Revolution: Trends in the Expansion of Distance Education" states that "College administrators and public officials cite a number of reasons for the expansion of distance education: projected enrollment growth, shrinking public funding for higher education, student demand and the need to improve access for non-traditional students. Academic supporters, including faculty teaching DE courses, are attracted to the challenge of providing quality education in a new medium. While all these motivations are legitimate, there is also clearly another motivation and that

is the perceived potential for profit. Numerous projections coming from both government agencies and business analysts suggest that the potential market for distance education can be measured in the billions of dollars [5]."

Technologies which promote new methods of learning have always been changing the teaching methods in societies. Change is the variable that can be depended on to be present. The higher education institutions that have embraced the use of technology in learning have realized through the mass communication changes that many additional groups of people may have access to higher education. You may compare this to societies in developing countries that never used a land telephone that have embraced cell phones. The non-traditional student now has new opportunities to pursue an education on their terms. The same reality that has changed the way libraries conduct business has been the reality of higher education institutions that have embraced distance education in many variations. Life changes! New technologies have changed the way we live, communicate, work and learn. The challenge is to create totally online courses that are secure, give an excellent learning experience to students, and give access to those people that have been traditionally neglected by the education establishment.

4. METHODOLOGY

Data for this study was collected from five semesters, fall 2007, spring 2008, fall 2008, fall 2009, and spring 2010 for comparison of the retention of students by examining students that dropped or withdrew from the courses, Final grades which includes all grades from tests, all grades from assignments, grades from research completed on central questions for each chapter, grades for arguments/debates, grades for a position paper, and grades for bonus assignments that were assigned to the in-class blended and the totally online American Politics courses being taught during the same semesters and for the same length of time. The specific assignments were assigned to both the in-class students using a blended method or hybrid method of learning and to totally on-line or distance education students. The final case study involved 225 undergraduate students in an in-class environment with hybrid or blended courses and 208 undergraduate students in totally on-line courses which was a total of 433 students. The results from all the tasks were recorded and analyzed. Pearson's Chi-Square statistical tests were used to determine if there was a significant difference between the tasks' outcomes from the blended in-class courses and the totally online courses.

The final study contains an additional analysis of data that relates to GPA, gender, and the class level of the students. Also, the final study analyzed the data to determine if a particular task or tasks have better outcomes in a blended in-class course or in the totally online course. The goal of the final study was to determine if the results from the first, second, third, fourth and fifth studies were consistent and valid.

Please note that a Pearson's Chi Square Test score > p = .05 denotes no significant difference between in-class blended courses and totally online courses. A Pearson's Chi Square Test score < p = .05 denotes a significant difference. The Pearson's Chi Square Test score is not an accurate test for counts under 5. Also, students that register for a course and choose to drop the course before engaging in an activity in the course do so for personal reasons which are unknown to the professor.

5. FINDINGS FROM THE FINAL STUDY

Retention: Data from all five semesters was used to determine if there was a significant difference between withdrawals and drops by students in the blended in-class courses compared to students in the totally online courses. After 73 dropped students were taken out of the 433 total numbers of students, 189 students were enrolled in the blended in-class courses and 171 students were enrolled in the totally online courses. Twenty students withdrew during the five semesters from the blended in-class courses which was 10.6% of the 189 students and 26 students withdrew from the totally online courses which was 15.2 % of the 171 students. The Pearson's Chi Square Test scores (p = .190) denoted that there were no significant difference of withdrawals between the two methods of teaching.

After 46 withdrawal students were taken out of the 433 total numbers of students, 205 students were enrolled in the blended in-class courses and 182 students were enrolled in the totally online courses. Thirty-six students registered for the blended in-class courses dropped the course before making any entries in the course and were 17.6% of the 205 students. Thirty-seven students registered for the totally online courses dropped the course before making any entries in the course and were 20.3% of the 182 students. The Pearson's Chi Square Test score (p = .487) denoted that there was no significant difference between the two different methods of teaching. The comparison of the blended in-class courses and the totally online courses for retention of students did not show any significant difference.

When Gender was used to analyze the data after the 46 withdrawals were removed from the data, 387 students remained. Out of 119 male students in the blended in-class courses 18 or 15.1% of the males dropped the course and out of 90 male students in the totally online courses15 males or 16.7% of the males dropped the course. Out of 86 females in the blended in-class courses 18 females or 20.9% of the females dropped the course and out of the 92 females in the totally online courses 22 females or 23.9% of the females dropped the course. Also, when both withdrawals (the Pearson's Chi Square Test score p = .765 for males and p = .128 for females) and drops (the Pearson's Chi Square Test score p = .762 for males and p = .634 for females) were analyzed by Gender the Pearson's Chi Square Test scores denoted that there was no significant difference between the number of males or the number of females withdrawing or dropping the blended in-class courses or the totally online courses.

When Class level was analyzed by comparing freshmen, sophomores, juniors, and seniors who withdrew or dropped the course from the blended in-class courses or the totally online courses no significant differences between Class levels was noted between the two methods of teaching.

When GPA was analyzed to compare the differences between students' outcomes from blended in-class courses

to students' outcomes from totally online courses for drops, no GPA categories denoted a significant difference.

When withdrawals were analyzed by GPA, 1.01 – 2.00 category was the only GPA category that had a Pearson Chi Square test score (p = .010) that denoted a significant difference between the two methods of teaching. Only 1 student or 6.7% out of 15 students in the blended in-class courses withdrew compared to 11 students or 45.8% out of 24 students in the totally online courses withdrew from the course that were in the1.01 – 2.00 category.

Final Grades: The Pearson's Chi-Square Test score (p = .001) denoted that there was a significant difference between the Final grades outcomes of the blended in-class courses compared to the Final grades outcomes of the totally online courses. Final grades outcomes were much higher for the blended in-class courses. The blended in-class courses had 79.3% of the students fall within the A/B/C category and 20.7% in the D/F category. The totally online courses had 62.8% of the students fall within the A/B/C category and 37.2% in the D/F category. Over 16 percent more of the students in the blended in-class courses scores fell into the A/B/C category than the totally online students. The fall 2007 grades for the totally online course were the lowest grades for any group of students that I have taught over the last seven years. Only 45% of students from the fall 2007 totally online course completed a 10 point Position Paper (10 points out of 100 points for the total grade) and none completed a 5 point bonus extra credit assignment. Final grades which included only spring 2008 and fall 2008 data shows the enigma of the fall 2007 Position Paper data. The Pearson's Chi Square Test score (p = .822) for the two semesters (spring 2008 and fall 2008) without the fall 2007 data denoted no significant difference between the Final grades category for the blended in-class courses compared to the totally online courses.

When the Gender data was analyzed for Final grades, it was noted that in the blended in-class courses 86.8% of females and 74.3 % of males fell into A/B/C category. Females in the blended in-class courses had 12.5% more students with higher Final grades than the males. Pearson's Chi Square Test score (p = .099) denoted no significant difference for males in the Final grades outcome between the two methods of teaching but females Pearson's Chi Square Test score (p = .001) denoted a significant difference for females between the two methods of teaching. In the totally online course 62.7% males and 62.9 % of females fell into A/B/C category. There was a significant difference (p = .001) between the two methods of teaching for females but no significant difference for males. Almost 14% more of the females from the blended in-class courses had higher Final grades than the females in the totally online courses.

When Final grades was analyzed by Class level only the freshmen category had a Pearson Chi Square test score (.002) that denoted a significant difference in the outcomes of freshmen in the blended in-class courses and the totally online courses. Eighty percent of the freshmen in the blended in-class courses fell in the A/B/C category while only 54.1% of the totally online students fell into the A/B/C category.

When GPA was analyzed to compare the differences between students' outcomes from blended in-class courses to students' outcomes from totally online courses for Final grades, the following Pearson's Chi Square Test scores were noted: freshmen and transfer students p = .096, .01 – 1.0 GPA students p = .310, 1.01 – 2.0 GPA category students p = .310, 2.01 – 3.0 GPA students p = .002, 3.01 - 4.0 GPA category students p = .241. Only 2.01 – 3.0 GPA showed a significant difference with 33% more students from the blended in-class courses falling into the A/B/C category than the totally online students.

Final Grades Summary: Over 16% more students in the blended in-class courses scored in the A/B/C Final grades category than students from the totally online students. Overall, females scored 14% more in the A/B/C Final grades category than males. Blended in-class students with lower GPA had higher Final grades than lower GPA students in the totally online courses. Freshmen from the blended in-class courses had 25% more students in the A/B/C Final grades category than freshmen in the totally online courses.

Tests Grades: Tests are worth 40 points out of 100 possible points for the course. There were 106 students or 73.1% of the 145 students in the totally online courses that were in the 26 – 40 point's category. While 105 students or 62.1% of the 169 students from the blended in-class courses were in the 26 – 40 point's category. The students in the blended in-class courses had the advantage of the chapter material being totally reviewed, Chapter Questions discussed and reviewed, and a test review in the class before the tests were taken but collectively scored lower than the totally online students. The Pearson's Chi-Square Test score (p = .039) determined that there was a significant difference for the Tests grades between the two methods of teaching. Eleven percent more students from the totally online course fell into the 26 – 40 point's category for Tests grades than the blended in-class students.

When Gender was used to analyze the data from the blended in-class courses 72.1% of females and 55.4% of males fell into 26 – 40 point's category. Females in the blended in-class courses had 16.7% more students with higher Test grades than males. The Pearson's Chi-Square Test score (p = .001) denoted a significant difference for between the two methods of teaching for males. The Pearson's Test score (p = .530) denoted no significant difference for the females between the two methods of teaching. Also, in the totally online courses 67.1% females and 78.7 % of males fell into 26 – 40 point's category. Males from the totally online courses had 23.3% more students with higher Test grades in the 26 – 40 point's category than males in the blended in-class courses.

When Tests grades were analyzed by Class there was no significant difference between the two methods of teaching.

When GPA was analyzed to compare the differences between students' outcomes from blended in-class courses to students' outcomes from totally online courses for Test grades, the following Pearson's Chi Square Test scores were

noted: freshmen and transfer students p = .566, .01 – 1.0 GPA students p = .921, 1.01 – 2.0 GPA category students p =.901, 2.01 – 3.0 GPA students p = .874, 3.01 - 4.0 GPA category students p = .057. There was no significant difference between the two methods of teaching for Test grades in any of the GPA categories.

Tests Grades Summary: By 11% more totally online students scored in the 26 – 40 point's category in tests than in-class blended students. By 23.3% more totally online males scored higher in the 26 – 40 point's category than males in the blended in-class courses. Blended in-class females had 16.7% more students in the 26 – 40 point's category in Tests grades than males in the blended in-class courses. Male students in the totally online courses had 23.3% more students in the 26 – 40 point's category than females in the totally online courses.

Answers to the Central Questions for each Chapter: The Pearson's Chi-Square Test score (p = .000) determined that there was a significant difference for the Chapter Question grades between the two methods of teaching during the five semesters. The blended in-class courses had 87 students out of 169 students or 51.5% of the students in the 7 - 10 point's category and 104 students out of 145 students or 71.7% of the students in the totally online courses fell in the 7 - 10 point's category. Over 20% more students from the totally online courses fell in the 7 - 10 point's category for the grades from the Chapter Questions.

When Chapter Central Questions grades were analyzed by Gender, the blended in-class courses had 42.6% of the males and 64.7% of the females in the 7 – 10 point's category. And in the totally online courses 66.7% of the males and 77.1% of the females fell into the 7 – 10 point's category. The Pearson's Chi-Square Test score for the blended in-class course compared to the totally online courses was p = .002 for males and was p = .107 for females. Male students had 24.1% more male students from the totally online courses falling in the 7 – 10 point's category than in the blended in-class courses. Female students had 12.4% more female students from the totally online courses falling in the 7 – 10 point's category than in the blended in-class courses. It appears that Chapter Central Questions are a better assignment for the totally online courses.

When Class was analyzed for the Chapter Central Questions grades variable, the Pearson's Chi-Square Test score (p = .037) for sophomores and (p = .021) for juniors denoted a significant difference in the comparison of the two methods of teaching. Twenty - four percent more sophomores in the totally online courses scored in the 7- 10 point's category than sophomores in the blended in-class courses. And 27% more juniors in the totally online courses scored in the 7 - 10 point's category.

When GPA was analyzed to compare the differences between students' outcomes from blended in-class courses to students' outcomes from totally online courses for Chapter Central Questions grades, the following Pearson's Chi Square Test scores were noted: freshmen and transfer students p = .145, .01 – 1.0 GPA students p = .310, 1.01 – 2.0 GPA category students p =.863, 2.01 – 3.0 GPA students p = .096, 3.01 - 4.0 GPA category students p = .004. Only 3.01 - 4.0 GPA showed a significant difference with over 23% more students from the totally online courses falling in the 7 – 10 point's category.

Chapter Questions Summary: The totally online course students had 20% more students than the blended in-class courses in the 7- 10 point's category. Totally online males and females scored higher in the Chapter Questions grades than the in-class blended students. GPA 3.01 – 4.0 had over 23% more students from the totally online courses falling in the 7 – 10 point's category than students with the same GPA in the blended in-class courses. Sophomores and juniors had higher scores from the online courses than students in the blended in-class courses. Chapter questions outcomes were higher in the totally online courses than in the blended in-class courses.

Grades for Arguments/Debates: Arguments/ Debates are usually one of the highlights in blended in-class courses. Students in the blended in-class courses prepare weeks in advance for a debate. Students in the totally online courses write a pro opinion, con opinion, and give their position/opinion on an argument which demonstrates that they have critically thought about the issue. Students (150 out of 169) in the blended in-class courses had 88.8% of the students in the 7-15 point's category while students (109 out of 145) in the totally online courses had 75.2% in the 7-15 point's category. The Pearson's Chi Square Test score (p = .002) determined that there was a significant difference for the Arguments/Debates grades between the two methods of teaching during the five semesters. Thirteen percent more students from the blended in-class courses were in the 7-15 point's category than the totally online students.

When Gender was used to analyze the data, out of 68 females, 63 students or 92.6% fell into the 7-15 point's category in the blended in-class courses. And out of 101 males, 87 students or 86.1% fell into the 7-15 point's category in the blended in-class courses. Out of 70 females, 52 students or 74.3% fell into the 7-15 point's category in the totally online courses. Out of 75 males, 57 or 76% fell into the 7-15 point's category in the totally online courses. The blended in-class courses outcomes for males when compared to totally online courses showed no significant difference (p = .085) between the two methods of teaching. Females with a Pearson's Chi-Square test score (p = .004) denoted a significant difference between the two methods of teaching. Females from the blended in-class courses had over 18.3% more students in the 7-15 point's category than the females in the totally online courses.

When Arguments/Debates grades were analyzed by Class, the Pearson's Chi-Square Test score (p = .009) denoted a significant difference between the two methods of teaching for freshmen. Out of 94 freshman students in the blended in-class courses, 82 or 87.2% fell in the 7 – 15 point's category while out of 37 students in the totally online courses 25 freshmen students or 67.6% fell in the 7 – 15 point's category which is almost a 20% difference.

When GPA was analyzed to compare the differences between students' outcomes from blended in-class courses to students' outcomes from totally online courses for the Arguments/Debates grades, the following Pearson's Chi Square Test scores were noted: freshmen and transfer

category students p = .128 .01 – 1.0 GPA category students p = .735, 1.01 – 2.0 GPA category students p =.070, 2.01 – 3.0 GPA category students p = .010, 3.01 - 4.0 GPA category students p = .083. Only the 2.01 – 3.0 GPA category students denoted a significant difference between the two methods of teaching with 24% more students from the blended in-class courses falling into the 7-15 point's category.

Arguments/Debates Grades Summary: Thirteen percent more students from the blended in-class courses were in the 7-15 point's category than the totally online students. Females from the blended in-class courses had over 18.3% more students in the 7-15 point's category than the females in the totally online courses. Freshmen from the blended in-class courses had 20% more students in the 7- 15 point's category than the freshmen in the totally online courses. Students with GPA's of .01 – 1.0 and 2.01 – 3.0 did poorly in both method of teaching. Only the 2.01 – 3.0 GPA category students denoted a significant difference between the two methods of teaching with 24% more students from the blended in-class courses falling into the 7-15 point's category.

Grades for the Position Paper: During the fall 2007 semester, two students in the blended courses did not complete the position paper. While ten students in the totally online courses did not complete the position paper which cost the ten students in the totally online course 10 points or 10 percent off their grade. The Position Paper grades dramatically influenced the Final grades. I have been teaching totally online courses for seven years and fall 2007 semester was the only time that 45% of students in a course did not complete an assignment. It appeared that at least six students to nine students did not make a genuine effort to complete the class assignments in the totally online course. The Pearson's Chi-Square Test score (p = .000) denoted that there was a significant difference for the outcome for the Position Paper grades between the two methods of teaching during the fall, 2007 semester.

The Pearson's Chi-Square Test score (p = .000) determined that there was a significant difference for the Position Paper grades between the two methods of teaching during the five semesters. The blended in-class courses had 156 students out of 169 students or 92.3% of the students in the 7 – 10 point's category and 100 students out of 145 students or 69% of the students in the totally online courses fell in the 7 – 10 point's category. Over 23% more students from the blended in-class fell in the 7 – 10 point's category for the grades from the Position Paper. The fall 2007 totally online students greatly influenced the Chi-Square Test score p = .007). When the fall 2007 Position Paper data was removed from the data, the Pearson's Chi Square Test score (p = .176) denoted no significant difference for the two semesters in 2008.

When Gender data was analyzed, 94.1% of females and 91.1% of males in the blended in- class courses fell in the 7 – 10 point's category for the Position Paper grades while 70% of females and 68% of males in the totally online course fell into the 7 – 10 point's category. There was a significant difference between the two methods of teaching for females and males which a Pearson's Chi-Square test score (p = .000) denoted. Both females and males from the blended in-class courses had 20% more students in the 7 – 10 point's category.

When Class was analyzed for the Position Paper grades, the following Pearson's Chi-Square Test scores were noted: freshmen (p = .000), sophomores (p = .021), juniors (p = .006), and seniors (p = .125). All Class levels but the seniors' Pearson's Chi-Square Test scores denoted a significant difference between the two methods of teaching.

When GPA data was analyzed for Position Paper grades, the following Pearson's Chi Square Test scores were noted: freshmen and transfer students' p = .000, .01 – 1.0 GPA category students' p = .004, 1.01 – 2.0 GPA category students' p =.182, 2.01 – 3.0 GPA category students' p = .002, 3.01 - 4.0 GPA category students' p = .032. Freshmen and transfer students category had over 32% more students from the blended in-class courses falling in the in the 7– 10 point's category than the totally online courses. All categories but 1.01 – 2.0 denoted a significant difference between the two methods of teaching.

Position Paper Summary: One task not completed during one semester can dramatically throw off the findings of a study. Because only 45% of the totally online students from the fall 2007 semester completed the task of the 10 points position paper, the final grade outcomes and the position paper grade outcomes showed a significant difference between the two methods of teaching. All students but seniors showed a significant difference between the two methods of teaching. Both females and males from the blended in-class courses had 20% more students in the 7 – 10 point's category. Freshmen and transfer students category had over 32% more students from the blended in-class courses falling in the in the 7– 10 point's category than the totally online courses. The Position Paper Assignment outcomes denoted that this assignment is a better assignment for in-class courses.

Grade for Bonus Assignment which was Optional: Over 67% of students in the blended in-class course took the opportunity to gain bonus points while only 21.4% students in the totally online course took advantage of the bonus opportunity. The Pearson's Chi-Square Test score (p = .000) determined that there was a significant difference for the Bonus grades between the two methods of teaching during the five semesters.

When the Gender variable was used to analyze the two teaching methods, the Pearson's Chi Square Test score (p = .000 males and p = .000 females) denoted a significant difference for males and females in the blended in-class courses when compared to the totally online courses. Both Genders in the totally online courses did not take advantage of the bonus opportunity. Both females (*76.5%)* and males (61.4%) fell into the Yes Bonus category in the blended in-class courses compared to females (21.4%) and males (21.3%) falling into the Yes Bonus category in the totally online courses.

When Class levels were analyzed, the Pearson's Chi-Square Test scores denoted a significant difference between the two methods of teaching for every class level.

Students from all GPA categories had higher grades for the Bonus Grades that were in the blended in-class courses.

Bonus Summary: Over 45% more students from the blended in-class courses took advantage of the bonus opportunity compared to the totally online students. And over 48% more students from the 3.01 – 4.0 GPA took advantage of the bonus opportunity. The bonus assignment is a better task for in-class students.

6. CONCLUSION

There was no significant difference in the Retention of students between the two methods of teaching. When all five semesters are compared the students in the blended in–class courses scored much higher for certain tasks. The Position Paper task scored 23% more blended in-class students in the 7 – 10 point's category, Debate/Argument task scored 13% more blended in-class students in the 7 – 15 point's category, and the Bonus task scored 45% more from the blended in-class students than the totally online students. Since the blended in-class students scored much higher in the above tasks, the Final grades outcome had 16% more blended in-class students in the A/B/C category than the totally online students. The totally online students scored 11% more students in the 26-40 point's category for Tests grades than the in-class blended students. And totally online courses had 20% more students in the 26-40 point's category for Chapter Questions grades than in the in-class students.

ITEM	Pearson Chi-Square Asymp. Significance
Retention	p = .190 withdrawal p = .487 dropped No Significant difference
Final Grade	p = .001 Significant difference (In-class 16% more in A/B/C category)
Tests	p = .039 Significant difference (Totally online 11% more in 26 - 40 point's category)
Chapter Questions	p = .000 Significant difference (Totally online 20% more in 7 - 10 point's category)
Position Paper	p = .000 Significant difference (In-class 23% more in 7 -10 point's category)
Arguments/Debates	p = .002 Significant difference (In-class 13% more in 7 – 15 point's category)
Bonus	p = .000 Significant difference (In-class 46% more in Bonus category)

Table 1: American Politics Pearson's Chi-Square Differences All Semesters

Ho No difference between the blended in-class and totally online courses.
> p = .05 denotes no difference between in-class blended and totally online courses
< p = .05 denotes a significant difference

When the fall 2007 semester data was taken out of the study and only spring and fall 2008 data was analyzed some interesting facts surfaced. The totally online students showed no significant difference for Retention (p = .556) or for Final grades (p = .822) or for the Position Paper grades (p = .176) or for Arguments/Debates grades (p = .083) when compared to the blended in-class students. There was a significant difference between the two methods of teaching for Bonus grades (p = .012) with the blended in-class having 45% more students in the Bonus category than the totally online students. There also was a significant difference in the Tests grades category (p = .014) and Chapter Questions grades category (p = .052) that favored the totally online students. Totally online students had 21.8% more students in the 26 – 40 point's category for Tests grades and 17.1% more students in the 7 – 10 point's category than the blended in-class students.

An important manifestation from the spring and fall 2008 data was the realization that some tasks/assignments are more successful in the blended in-class course and some are more successful in the totally online courses. Bonus assignments, Position Paper assignments, and Debates/Arguments assignments had higher student outcomes in the blended in-class courses than the totally online students. Test assignments and Chapter Questions assignments had higher student outcomes in the totally online courses compare to the students blended in-class courses.

There was no significant difference for Retention between the blended in-class courses and the totally online courses. And Gender analysis showed no significant difference for Retention.

Female students in the blended in-class courses had 18.7% more students in the A/B/C category for Final grades than male students. Male students scored higher in the Tests grades in the totally online courses.

Generally students entering the courses with lower grade point averages did better in the blended in-class courses and had higher Final grades than students in totally online courses. Freshmen by 25% and lower GPA students do better in the in-class blended course environment overall. Students with higher grade point averages scored the same in both methods of teaching. But there were some indications that students with higher grade point averages did some tasks better in the blended in-class courses.

7. REFERENCES

[1] J.R. Young, "*Hybrid" Teaching Seeks to End the Divide Between Traditional and Online Instruction***, Chronicle of Higher Education,** 48 (28), A 33, 2002.
[2] K.A. Meyer, "*Quality in Distance Education Quality in Distance Education: Focus On Online Learning*", **ASHE-ERIC Higher Education Report,** Volume 29, Number 4, 2007.

[3**]** I.E. Allen and J. Seaman, "*Online Nation, Five Years of Growth in Online Learning***", Babson Survey Research Group, Sloan Consortium,** Needham, MA 02492-1200,

2007.
[4] A. Le Cornu, H. Cameron, E. Catling, T. Cosgrove, and E. Langford, "*Managing Distance Learning in a Face-to-Face Culture"*, **Brookes eJournal of Learning and Teaching,** Volume 1, Issue 4, 2006.

[5] T.J. Kriger, "*A Virtual Revolution: Trends in the Expansion of Distance Education"*, **USDLA Journal,** Volume 15: No 11, November, 2001.